Marked-Up Version of Amendments Submitted With

Amendment; Response to the Final Office Action Mailed December 10, 2002

2039. (amended) A method of treating a coal formation in situ, comprising:

providing heat from one or more heaters positioned in heater wells to at least a portion of the formation;

allowing the heat to transfer from the one or more heaters to a part of the formation;

wherein the part of the formation has been selected for heating using a moisture content in the part of the formation, and wherein at least a portion of the part of the formation comprises a moisture content of less than about 15%; and

producing a mixture from the formation.

2048. (amended) The method of claim 2039, wherein providing heat from the one or more heaters to at least the portion of the coal formation comprises:

heating a selected volume (V) of the coal formation from the one or more heaters, wherein the formation has an average heat capacity (C_v), and wherein the heating pyrolyzes at least some hydrocarbons within the selected volume of the formation; and

wherein heating energy/day (Pwr) provided to the selected volume is equal to or less than $h*V*C_v*\rho_B$; wherein ρ_B is an average formation bulk density, and wherein an average heating rate (h) of the selected volume is ~~less than~~ about 10 °C/day.

2050. (amended) The method of claim 2039, wherein allowing the heat to transfer to the part of the formation heats ~~providing heat from the one or more heaters comprises heating~~ the part of the formation ~~such that~~to increase a thermal conductivity of at least a portion of the part of the formation ~~is~~ to greater than about 0.5 W/(m °C).

2062. (amended) The method of claim 2039, wherein the produced mixture comprises a non-condensable component, wherein the non-condensable component comprises molecular hydrogen, wherein the molecular hydrogen is greater than about 10 % by

volume of the non-condensable component, and wherein the molecular hydrogen is less than about 80 % by volume of the non-condensable component at 25 °C and one atmosphere absolute pressure.

2072. (amended) The method of claim 2039, wherein allowing the heat to transfer ~~comprises increasing~~increases a permeability of a majority of the part of the formation to greater than about 100 millidarcy.

2073. (amended) The method of claim 2039, wherein allowing the heat to transfer ~~further comprises substantially uniformly increasing~~increases a permeability of at least a majority of the part of the formation such that the permeability of the majority of the part is substantially uniform.

2078. (amended) A method of treating a coal formation in situ, comprising:

providing heat from one or more heaters positioned in heater wells to a part of the formation;

allowing the heat to transfer from the one or more heaters to the part of the formation;

wherein at least a portion of the part of the formation has an initial moisture content of less than about 15%; and

producing a mixture from the formation.

2087. (amended) The method of claim 2078, wherein providing heat from the one or more heaters to at least the portion of the coal formation comprises:

heating a selected volume (V) of the coal formation from the one or more heaters, wherein the formation has an average heat capacity (C_v), and wherein the heating pyrolyzes at least some hydrocarbons within the selected volume of the formation; and

wherein heating energy/day (Pwr) provided to the selected volume is equal to or less than $h*V*C_v*\rho_B$; wherein ρ_B is an average formation bulk density, and wherein the heating rate (h) of the selected volume is ~~less than~~ about 10 °C/day.

2089. (amended) The method of claim 2078, wherein allowing the heat to transfer to the part of the formation heats ~~providing heat from the one or more heaters comprises heating~~ the part of the formation ~~such that~~to increase a thermal conductivity of at least a portion of the part of the formation ~~is~~ to greater than about 0.5 W/(m °C).

2101. (amended) The method of claim 2078, wherein the produced mixture comprises a non-condensable component, wherein the non-condensable component comprises molecular hydrogen, wherein the molecular hydrogen is greater than about 10 % by volume of the non-condensable component, and wherein the molecular hydrogen is less than about 80 % by volume of the non-condensable component at 25 °C and one atmosphere absolute pressure.

2111. (amended) The method of claim 2078, wherein allowing the heat to transfer ~~comprises increasing~~increases a permeability of a majority of the part of the formation to greater than about 100 millidarcy.

2112. (amended) The method of claim 2078, wherein allowing the heat to transfer ~~further comprises substantially uniformly increasing~~increases a permeability of at least a majority of the part of the formation such that the permeability of the majority of the part is substantially uniform.

5150. (amended) A method of treating a coal formation in situ, comprising:

evaluating a moisture content of coal in the coal formation to identify a portion of the coal with ~~an~~ a moisture content that is less than about 20%;

providing heat from one or more heaters positioned in heater wells to the portion to ~~raise temperature in~~heat the portion so that an average temperature in the portion is above a temperature sufficient to pyrolyze coal in the portion; and

producing a mixture from the coal formation.

5152. (amended) The method of 0, wherein providing heat from one or more heaters to the portion comprises providing heat to a portion of the ~~hydrocarbon containing material~~coal identified as having a moisture content that is less than about 15%.

5153. (amended) The method of 0, wherein providing heat from one or more heaters to the portion comprises providing heat to a portion of the ~~hydrocarbon containing material~~coal identified as having a moisture content that is less than about 10%.